Age of Easter Island Settlement, *Ahu* and Monolithic Sculpture.

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The unique statues of Easter Island and their associated structures, the *ahu*, have puzzled the minds of scientists and laymen for more than two hundred years and their age and origin are still not ascertained. The same uncertainty is valid for the question of the primary settlement of the island.

As is natural, the preserved early accounts of visits to the Island devote special attention to the statues, and *ahu*, but they do not include any useful information with regard to their age.

One point, however, they do make clear: there was no longer any monolithic carving activity on Easter Island at the time of the discoveries. Thus we know from the account of Cook's party that they considered the statues and the *ahu* as entirely disassociated from the contemporary island culture, and identified them as ancient relics. Gilbert (Skinner 1919:179), who was the master of Cook's *Resolution*, wrote in his logbook that the statues "must have been executed some centuries back," and Cook (1777:1:296) referred to them as "monuments of antiquity," stating that "They must have been a work of immense time, and sufficiently show the ingenuity and perseverance of the islanders in the age in which they were built; for the present inhabitants have most certainly had no hand in them, as they do not even repair the foundations of those which are going to decay."

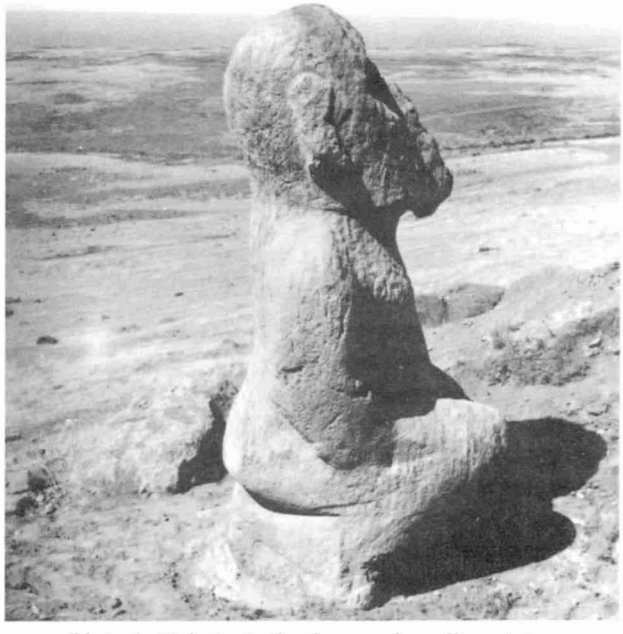

Plate 1. Tukuturi, the famous kneeling statue at Rano Raraku.

La Pérouse (1797:1:318 f), who visited the island in 1786, agreed with Cook that none of the monuments appeared to have been built in modern times, and that they all displayed visible aspects of being remnants of the past. The only early reference to the period when the manufacture of statues ceased was collected by Geiseler (1883:14, 43), and he repeats it twice: "On Rapanui itself they could point out different time sequences for the statues, and the last of these, the time since the completion of the last statue on the west side of Rano Raraku, is appraised by the oldest natives today to approximately two hundred and fifty years." This means that the last statues were sculptured in the first half of the seventeenth century, and this agrees quite well with archaeological dating (Mulloy and Figueroa 1978: 131; table 16).

Most of the statues seem still to have remained on their *ahu* platforms at the time of the European discovery, but all of them were apparently overthrown around 1840 (Routledge 1919:300). According to tradition, the statue Paro at Ahu Te Pito te Kura was the last to be overthrown (ibid.:197). A more difficult question is when the manufacture of stone statues first began. This must be viewed, among other aspects, in light of the problem of the first settlement on the island, and the age of the *ahu* structures.

Prior to 1956, all attempts to date the aboriginal settlement on Easter Island were based on a system of genealogical cross-bearings. At the time of the Routledge expedition, scholars—basing their reasoning on genealogists such as Percy Smith and W. Volz—had come to the conclusion that Polynesians settled Easter Island about AD 1400 (Haddon 1918:161). Routledge (1919: 241) was more cautious. She points to the fact that Thomson collected a genealogical list of fifty-seven successive kings, whereas Jaussen (1893: 241) and Roussel (1926: 358) present only some thirty names. She herself merely points to Volz's assumption that the Polynesian wave reached Easter Island about AD 1400 (Routledge 1919: 299). However, in her opinion a negroid population inhabited the island before this date. Other proposed dates for settlement vary from the eleventh century AD (Knoche 1925: 313f) to as late a date as approximately 1575 (Englert 1948; 156).

In 1914-15 the Routledge expedition carried out investigations of prehistoric monuments on Easter Island, but even though this work resulted in new information about the ancient history of the Island, it did not provide any basis allowing us to date the monuments. The archaeological excavations undertaken by the Norwegian Heyerdahl expedition in 1955-56 obtained the first ^{14}C dates upon which one could attempt to establish a provisional chronology of the *ahu* architecture of the island. Basing the judgment on a series of carbon dates and on studies of nine different *ahu* structures, the Expedition arrived at the following result: there had been three consecutive architectural periods in connection with the construction of image *ahu* (Smith 1961: 212): Ahu Moroki, Early Period, before A.D. 400 - c. 1100; Ahu Moai, Middle Period, c. A.D. 1100 - 1680; and Huri Moai, Late Period, c. A.D. 1680 - 1868.

It was assumed that during the Early Period the *ahu* platforms were not supporting stone statues. This custom was first adopted during the Middle Period. During this period there appeared to have been an extensive mass production, with the aim of furnishing the converted *ahu* with stone statues. The Late Period, from about 1680 to the introduction of Christianity, was a period of decline, without any stone

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carving activity (Skjølsvold 1961:374) .

As a provisional hypothesis, the newly discovered kneeling statue at Rano Raraku (Tukuturi) was regarded as being associated with the Early Period, when the custom of placing stone statues on the *ahu* platforms had not yet arisen (Plate 1). According to this hypothesis, this naturalistic type of statue had been fully developed before it was introduced onto the island. As a reason why the type did not become more prevalent, the assumption was put forward that this "model" was too complicated, and therefore unsuited for the "mass production" on which the islanders embarked. Instead they developed a simpler, stylized type, more fit for such production (Skjølsvold 1961:374). This reasoning included the argument that other statues, which had a more naturalistic shape, might apparently also date from the Early Period, and thus possibly form an intermediate link between the kneeling statue and the statues of the Middle Period (ibid.).

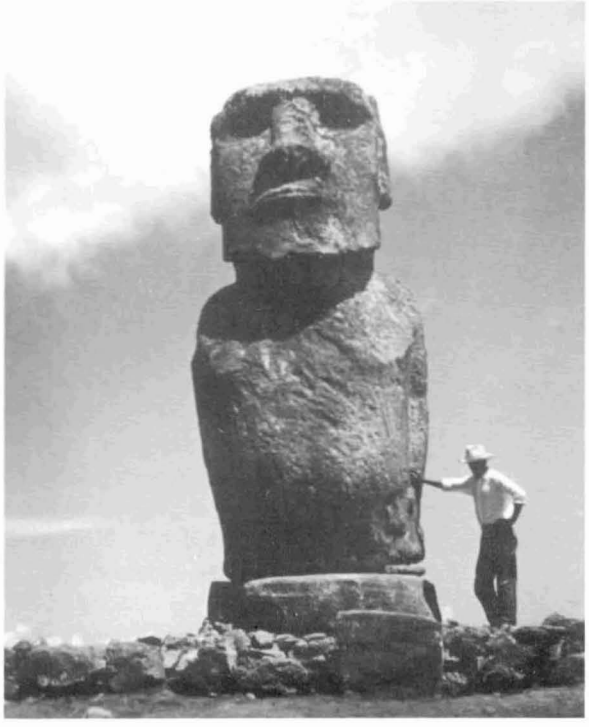

Plate 2. One of the earliest classically stylized statues of Rano Raraku tuff is on Ahu Ko te Riku at Tahai. This photo shows the statue without its reconstructed *pukao*.

Extensive archaeological excavations have been carried out on Easter Island since the Norwegian expedition in 1955-56. One of the results of this activity is a great number of ^{14}C dates from settlement sites, *ahu* structures, and in connection with stone statues. It appears that the Poike date obtained by the Heyerdahl expedition—AD 386 ± 100 (Smith 1961: 394)—is still the earliest of all the ^{14}C dates, preceding the next by about three hundred years. I am here disregarding those from Ahu a Kivi—266 BC + 96 (Mulloy and Figueroa 1978: 119) and Ahu Tepeu—A.D. 318-250 (Smith 1961:394); both these have been rejected by the excavators. The Poike dating was interpreted as evidence for the Early Period extending at least that far back in time (Smith 1961:395).

A question which arises automatically is to what extent this date is representative of the first settlement on Easter Island. The carbon sample was taken from the original ground surface at the ditch (ibid.:391), and thus it may stem from a natural fire, and not necessarily be indicative of human activity at that time.

The second earliest ^{14}C date obtained by the Norwegian expedition comes from a charcoal sample found on the surface of the ground below the bank that surrounds the plaza of Ahu Vinapu II. This sample yielded the date AD 857 - 200, uncalibrated (Mulloy 1961:118). But this date cannot be

Plate 3. Ahu Nau Nau at Anakena. A paved plaza belongs to a primary phase of the *ahu* and is dated to ca. AD 1100-1200.

regarded as secure evidence either, since the charcoal may derive from a natural fire, or may represent earlier human activity at the place. Thus it seems probable that Easter Island was inhabited at this time. Any conclusion to the effect that the sample dates the bank—and thus Ahu Vinapu II—must be regarded as insecure. In this connection it may be of interest to note that Gonzalo Figueroa and this author conducted a test excavation of the crematorium on the seaward side of this *ahu* in 1982. A charcoal sample from the lowest layer of the crematorium yielded the date AD 1340 ± 90 years (T-5175, calibrated, Masca).

If we assume that the crematorium is contemporary with the *ahu* structure, we arrive at a date reasonably close to that from Ahu Vinapu I, where charred bones from the crematorium have yielded the date AD 1228 ± 200 years (Mulloy 1961:100).

The dividing line between the Early Period and the Middle Period was provisionally set at AD 1100 by Smith, who placed it about half-way between the date AD 857 from Vinapu and c.1206 from a bottom layer of refuse at Rano Raraku (Smith 1961:395). It will be seen that this chronological division is based on somewhat arbitrary grounds, particularly when we take into account that the date from Rano Raraku derives from a sample which was inadequate for accurate dating (Smith 1961:394). This original tripartite historical classification of *ahu* structures developed by the Norwegian expedition has since been questioned by Mulloy and Figueroa, who found "that from the point of view of image *ahu* architecture, this part of the local history can most meaningfully be seen as a single period of uninterrupted development, characterized by gradual introduction of new ideas, expansion of themes and improvement of capacities." These authors were not able to discern any point characterized by such a series of sharp changes as would justify a division into Early and Middle Periods (Mulloy and Figueroa 1978: 137). But even if the tripartite division may be unjustified, ^{14}C dates obtained more recently would seem to indicate that an approximate date of AD 1100-1200 may have chronological relevance. Thus one of the earliest classically stylized statues of Rano Raraku tuff on a dated *ahu* is at Ahu Ko te Riku (Plate 2), which has been dated to AD 1110-1205 (Mulloy and Figueroa 1978: 133). This statue is of medium size, about 5.20 m tall, and weighs about 20 tons. If the statue were placed here soon after construction of the *ahu*, it seems likely that the Rano Raraku quarry was already established at that time, and that the classical stylization had been developed.

Plate 4. Detail view of pavement belonging to an earlier phase at Ahu Nau Nau. Bedrock is immediately below the pavement.

William Ayres (1973) has indeed suggested that a rounded stone head of red scoria, which was found in the sea at Tahai, might be associated with the ^{14}C date of 1260+130 years BP, or AD 690-130 (uncalibrated), corresponding to his early Ahu Tahai. However, there is no actual relation between the head and the *ahu* (See also Mulloy and Figueroa 1978: 128-33).

So far, the date of Ahu Tahai I is considerably earlier than that of any other Easter Island *ahu*. If we disregard Mulloy's uncertain dating of Ahu Vinapu II, the date of Tahai I is about four hundred years earlier than the next valid dates: Ko te Riku, which has been dated to c. AD 1100-1200, Ahu Tahai II c. AD 1200, and Ahu Huri a Urenga c. AD 1200 (Mulloy and Figueroa 1978: 123). The earliest phase of Ahu Nau Nau in Anakena is also of approximately the same age: it has yielded the dates 860 - 130 years BP and 710 ± 70 years BP As we have so many dates available now, this gap of about four hundred years seems remarkable.

Until dates for *ahu* structures fill this hiatus and become available in the future, one cannot exclude the possibility of the charcoal sample from Tahai I secondarily having found its way into the fill material of the *ahu*. Thus it may, for instance, derive from an earlier period of local settlement. The age of the Tahai settlement is not ascertained, but the Hangaroa area is supposed to be among the oldest sites on Easter Island.

The only place in the island where the oldest traces of human occupation seem relatively well established is Anakena. The settlement in question was investigated in 1986-88, under the leadership of this author. The uncovered cultural deposit lay under thick layers of erosion, about 2.5 m below the present surface level and immediately above bedrock, and thus it must represent the very first habitation here. Four ^{14}C dates from the layer indicate a primary settlement around AD 900-1000.

This habitation layer is situated about 1.2 m below a paved plaza floor, belonging to a primary phase of Ahu Nau Nau, and dated to about AD 1100-1200 (Plates 3-4). There are no indications of any earlier *ahu* structures in this locality. It is therefore tempting to indicate that there might have been two centuries of primary habitation without any *ahu* structures in Anakena—at least structures of monumental character.

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This late date of settlement and *ahu* building is remarkable in view of the fact that, according to tradition, Anakena is one of the oldest habitation sites on Easter Island. It was here that the island's first king, Hotu Matua, landed together with his retainers, and the locality has seemingly been a royal residence (Métraux 1940:133). Inevitably, the question arises whether or not this late date may be of general validity for Easter Island. The fact that *ahu* structures seem to have made their appearance at a relatively late date at Anakena accords well with Stevenson's results from the southern coastal area of Easter Island, where no such structures apparently were raised before c. AD 1300 (Stevenson 1986: 74).

In the previous pages I have questioned the early date of Tahai I since it is unreasonable in comparison with other valid dates for *ahu* structures. Except for the Poike date of AD 386 ±100 and the two rejected dates from Ahu Akivi and Ahu Tepeu, the uncalibrated date of Ahu Tahai I of AD 690 ± 130, is the oldest so far from Easter Island. Thus it is 200-300 years older than the first settlement demonstrated in Anakena. This may, of course, be the actual situation even though it seems more likely that the first settlement on the island would leave behind cultural traces in either of the two localities since they are both well suited for habitation.

A possible explanation of the time difference may be found in the fact that modern calibration range for the Tahai dating is as much as 248 years, from AD 685 to 933 (CalibETH 1.5b.1991). Thus it may in fact overlap the Anakena dating. If the above reservations with regard to Tahai I are correct, and this *ahu* phase is of approximately the same age as Tahai II and Ko te Riku, circumstances at Tahai may have been roughly the same as in Anakena, with a period of primary settlement without any *ahu* structures.

In the provisional chronology of *ahu* architecture established by the Norwegian Expedition of 1955-56, it was allowed for an Early Period when the *ahu* platforms were not supporting stone statues. Such a period was not demonstrated in Anakena. The excavations here uncovered two *ahu* structures which, for stratigraphic reasons, must predate the present Ahu Nau Nau. The oldest structure is, architectonically, a relatively simple construction, consisting of a 1 m high, elevated platform made of a core of piled together stones, and with a retaining wall bordering a faintly slanting stone pavement with a ceremonial plaza of unknown extension in front (Plate 5).

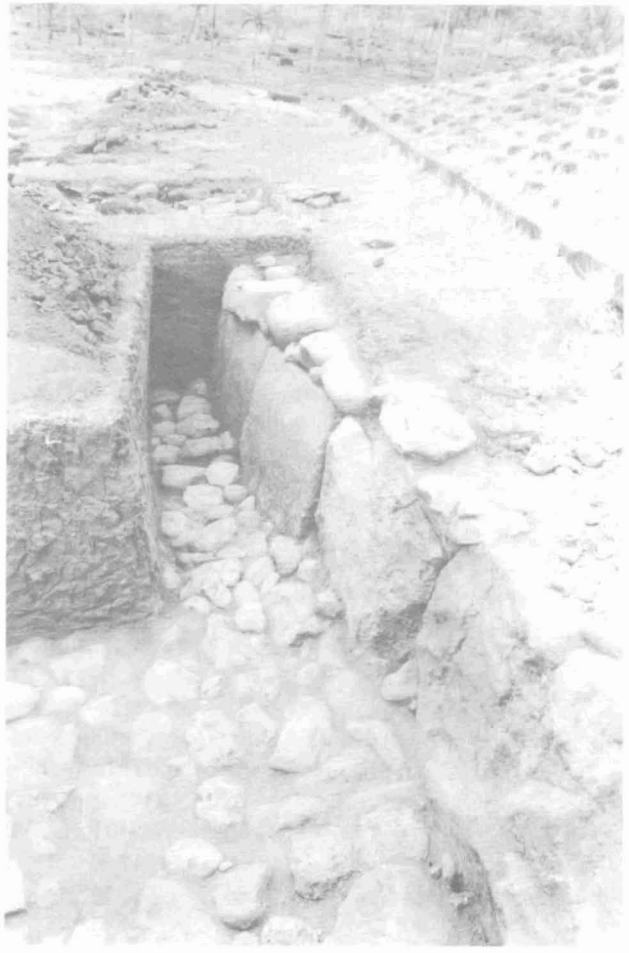

Plate 5. A relatively simple platform with retaining wall lies below Ahu Nau Nau. A stone pavement can be seen in the foreground.

Plate 6. A phase of *ahu* building, a retaining wall of dressed and well-fitted stones is on the landward side, bordering a plaza. Ahu Nau Nau is at top of photo.

On top of the plaza "floor", next to the pavement, there was a hard stamped layer of powdered Rano Raraku tuff, and chips of the same material. Also some stone *toki* were found. This waste probably originates from working of stone statues, and is a strong indication for the assumption that this *ahu* had statues, even though we do not know if they were placed on the *ahu* platform or not. This *ahu* phase is, as mentioned, dated to sometime around AD 1100-1200. When the next *ahu* was built, the upper 50 cm of the retaining wall of the earlier structure was still visible, while the lower part of the wall and the pavement was buried by erosional masses. Instead of removing and covering up the old *ahu* it seems as if it has been made use of as a retracted wing.

Plate 7. Anakena. Detail of finely worked stones that served as a retaining wall on the landward side of an earlier *ahu*.

This *ahu* phase reminds in its general construction of the previous one. It seems to have consisted of a 50 m long and 5-6 m wide rectangular platform made of piled-up stones, with a retaining wall of nicely dressed and well fitted stones on the landward side bordering a ceremonial plaza (Plates 6,7). Instead of paving, the plaza appeared like a hard-stamped "floor." The back (seaside) of the platform has been furnished with a retaining wall of large, unworked stones.

Whether or not this platform had statues is not ascertained, but the find of a small coral eye in the top of the platform fill may indicate that it has been furnished with small statues. A ^{14}C dating suggests a date for this *ahu* of about AD 1200-1300, while the present Ahu Nau Nau seems to date from about AD 1300-1400.

There are a great many fragmentary statues of different sizes found in association with Ahu Nau Nau, most of them are relatively small. Some are situated in the sand on the seaward side of the *ahu*, some are built into the *ahu* wall and others, especially small samples, are found in the platform fill. Several of the statues have a rounded and more naturalistically-shaped heads. There are reasons to believe that some of these statues may originally have been associated with the two earliest *ahu* structures mentioned above.

The question inevitably arises whether or not there may have been a period of monolithic stone sculpture before monumental *ahu* building started. In this connection it may be of interest to note that the earliest date obtained in connection with a stone statue is 1040 + 90 BP This refers to the kneeling statue, Tukuturi, at Rano Raraku. It has been suggested that this type of statue antedates the appearance of the classical *moai*, and that the rounded and more naturalistically-shaped statues represent the earliest type of *moai* on the island (Skjølsvold and Figueroa 1989:32). The evidence that this type is early, is, among other aspects, based on the fact that such statues are often found secondarily used as building material in *ahu* structures.

The dating of Tukuturi may seem to occur in the period before *ahu* building started, at least in Anakena. For this reason we cannot exclude the possibility that there existed monolithic stone sculpture before *ahu* building was established on the island. However, we have to take into account that the calibration range for the date of Tukuturi is AD 969-1153 (CalibETH 1.5b 1991). Thus it may nevertheless overlap the period of early *ahu* building and carving of classical *moai*.

Conclusion

Our investigations in Anakena seem to indicate that the first settlement in that area took place some time between AD 900 - 1000, and that monumental *ahu* building was not established until about 200 years later, around AD 1100-1200. Furthermore, there are indications that the local *ahu* from the very beginning was furnished with stone statues, probably of relatively small size.

To what extent the late dates from Anakena are valid for Easter Island in general is, with our present knowledge, impossible to ascertain. In the previous pages, the author has questioned the early dates of Poike and Tahai I. If these objections are justified, then one cannot rule out the possibility that the Anakena chronology may be generally valid for the island.

The difficult question of origin is not discussed here. As a conclusion, however, it may be tempting to suggest that the apparent time difference between initial settlement and *ahu* building may indicate different cultural origins.

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